Project Report
Alaska Public Broadcasting, Inc.
Project Number 0117-DC-2004-15
October 1, 2008 – December 31, 2008

Alaska Rural Communications Service & Satellite Interconnection Revitalization

Project Summary: the ARCS revitalization project continues to make measurable progress. The project objective is the restoration of television broadcast programming to bush and rural communities by either repairing or replacing non operational equipment. This includes transmitters, antennas, satellite dishes, receiver/decoders, or towers.

Restoration of service: reliable ARCS service has been restored to more than 100 bush and rural communities where it had been completely off or seriously degraded.

Acquisition and refurbishment of equipment: refurbishing original transmitters saves approximately $5000 per unit compared to purchase of new systems. We continue to cycle rebuilt units to the villages and bring the failed units back from those communities and send them off to the factory for rebuilding. We have rights to use some new receivers to decrease our response time when existing units fail in the villages.

Provision of timely customer support: with a system that includes more than 200 sites, technical staff is kept busy each day with myriad general service and trouble calls involving unique factors and circumstances to analyze and address. The range of work can run from a simple reset to a complex set of problems which have resulted in the complete failure of a village's local service.

Establishment of community partnerships: the majority of the service restoration work is attained through partnership, technical staff working with dedicated community volunteers. Some sites and projects require staff travel in order to deal with the extraordinary circumstances.

Phases two and three are complete: modern technology based systems have been designed and implemented allowing for consolidation of a delivery system and central point of control for multiple content streams. A new method of controlling the ARCS program schedule is fully operational, allowing for remote operation. Equipment purchase and installation of the new State of Alaska satellite uplink system became operational on January 25, 2007.

The overall project is on schedule and within budget. We have not encountered any serious unanticipated problems or set backs requiring significant changes to the work scope. Restoration or upgrading of service presents a different challenge in each community. In partnership with our community liaisons, we continue to identify and solve these problems.

Activity detail: October 1, 2008 – December 31, 2008

- ARCS Technical Support handled 170 calls for assistance from 36 different bush and rural communities serviced by ARCS. As email becomes more readily available in the villages, we are seeing around two dozen email contacts per month that, in the past, would have been phone calls.

- In Cold Bay, following a nasty storm that took power out, we replaced a satellite receiver after troubleshooting found no signal arriving from the dish. By the time the replacement was shipped we discovered the modulator was also not working, a replacement for that was sent and service restored.
- In Ekwok the transmission line needed to be replaced. A new cable was made and shipped along with fastening and sealing materials. The volunteer at the community emailed back saying the ends did not match. After several calls, pictures and emails were exchanged, we discovered they had not removed a twenty foot section of the old cable that had been used years ago to fix a break at the tower base. We are now looking for a tower climber in the area to help install the new cable correctly.
- Igiugig was operating their television transmitter with an old RCA modulator that had somehow managed to keep working up until November when it finally died. A refurbished transmitter was sent over the Thanksgiving weekend, only to be waylaid half way there at Port Alsworth due to weather and flight schedules. It finally made its way to Igiugig where grateful residents helped get the equipment installed and operating.
- McGrath may not be a very big community, but when their ARCS television goes out you wouldn't know it. Somehow their receiver went to standby on a Friday night, resulting in several calls to our voice mail trouble line. During the troubleshooting session a single button press restored service.
- In mid-December, a fiber link in southeast Alaska interrupted telephone service to GCI customers in Sitka. This outage would not have ordinarily affected our service, except that the satellite capacity which GCI uses to feed video to our uplink suite in Fairbanks was pre-empted in order to restore telephone traffic while the fiber was repaired. We were able to continue broadcasting statewide by partnering with Alaska One for all our content. This triggered several calls from viewers concerned that our switching equipment was stuck. We put up informational slides explaining the outage and our expectation that things would return to normal within a day, which they in fact did.
- We continue to field calls asking about the impending digital television conversion. ARCS is a system of low power transmitters and is exempt from the upcoming deadline to shut off analog television transmitters. While we continue to plan for the digital future of television in rural Alaska, we have been assuring our viewers in a number of ways that their televisions will continue to work even after the deadline.

Alaska Public Broadcasting Digital Distribution Network

Project Summary: project objective is interconnection of public broadcasting system facilities by means of the internet or constructed intranet. Upon completion of the network, delivery of content - programming, data and voice - and access to advanced networking options will be available to the system, enhancing service to local, regional and statewide audiences. The project is based on a network design developed under a previous federal grant from the US Department of Commerce. The project began in March 2004 and milestones include:

Review of network design and work scope: a thorough review of the original design and work scope was completed to determine if the selected equipment was still the best choice.

University of Alaska partnership agreement: entered into a multi year agreement with the UA statewide office of information technology for provision of connectivity between the hubs via the UA data backbone; and operational oversight of the network on a twenty-four hour basis once normalized operation begins. This oversight provides rapid reporting of problems so system maintenance and repair can be provided with minimal down time for network users.

Equipment bids, purchase and deployment: the core equipment for the hub and control locations was installed in August, 2005. Since then, data network equipment for 26 stations has been installed. Competitive bidding has yielded average discount of 31% saving $465,000.

The overall project is on schedule and within budget. There continues to be local technical issues to resolve but we have made good progress and we have not encountered any serious unanticipated problems or set backs requiring significant changes to the work scope.

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All sites have been installed and project efforts remain focused on operations and maintenance. The effort to coordinate and integrate the various sites on the network is ongoing with additional code updates focused on new software for routing and switching systems. Current activity is occasional technical assistance being provided to personnel at various sites.